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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,038	01/16/2004	In Cheol Jeong	0630-1938P	6144
2292	7590	06/29/2006	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			KYLE, MICHAEL J	
			ART UNIT	PAPER NUMBER
			3677	

DATE MAILED: 06/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/758,038

Applicant(s)

JEONG ET AL.

Examiner

Michael J. Kyle

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-28 is/are pending in the application.
- 4a) Of the above claim(s) 22-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/24/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Newly submitted claims 22-28 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The originally filed claims are drawn to a hinge apparatus. Newly added claims 22-28 are directed to a distinct method of fabricating a hinge apparatus.
2. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 22-28 withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 1 and 3-11 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: the elements of the rear hinge that provide the claimed functions, and the elements of the front hinge that rotatably support the front of the drum. It is noted that the structure including a ball bearing, housing, and shaft have been included in the independent claims 1 and 8, however, there is no connection of this structure to the claimed functions.

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5. Claims 3-7 ultimately depend from rejected claim 1, and include all of the limitations thereof. For this reason, these claims are also rejected.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 8-10 and 12-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Heyder (U.S. Patent No. 5,483,756). Heyder discloses a hinge apparatus of a clothes drier drum comprising a front hinge portion (column 1, lines 66, 67), and a rear hinge portion (see figure 3) installed between the rear of a case (2) and a rear of a drum (8) such that the rear of the drum swings in vertical and horizontal directions. Heyder further shows the rear hinge portion to comprise a housing (10, 11) fixed at the center of the drum, a ball bearing (5) in the housing, and a shaft (3). Heyder also discloses one end of the shaft (3) fixed at the ball bearing (see figure 3), and the other end of the shaft has a spiral formed portion (threads) so as to be bolt engaged with the case (2) while providing an empty gap between the second housing and the case. A base nut (portion around shaft 3, between 4 and 5, in figure 3) is screw engaged with the shaft at an inner surface of the case (2). The base nut is disc shaped and installed at a nut-installed portion at the case (2). A plurality of engaging protrusions (22) are formed at an interval in a circumferential direction. 10. With respect to claims 9 and 10, Heyder discloses a reinforcing member (1) mounted at an outer surface of the case. A stopping pin (23) is inserted in an insertion groove (of

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22) formed in the case and is protruded to the nut-installed portion (area between 4 and 5) such that the stopping pin stops a stopping protrusion (22).

8. With respect to claims 12, 13, and 16, Heyder discloses a housing (10, 11), a ball bearing (5), a shaft (3), and a shaft fixing unit (1 and portion around shaft 3, between 4 and 5, in figure 3). The shaft fixing unit comprises a base nut member (portion around shaft 3, between 4 and 5, in figure 3) screw engaged with the shaft installed an inner surface of a case, and having a plurality of engaging protrusions (22) formed at an interval, and a reinforcing member (1) mounted at an outer surface of the case, having a stopping pin (23).

9. With respect to claims 14 and 15, Heyder discloses the base nut member to have a disc shape and is installed at a nut-installed portion formed at a center of the case. The stopping pin (23) is inserted in an insertion groove (of 22) formed in the case and is protruded to the nut-installed portion (area between 4 and 5) such that the stopping pin stops an engaging protrusion (22).

10. With respect to claims 17 and 18, Heyder discloses a base nut member (portion around shaft 3, between 4 and 5, in figure 3) screw engaged with the shaft installed an inner surface of a case, and having a plurality of engaging protrusions (22) formed at an interval and a stopping pin (23). A reinforcing member (1) is mounted at an outer surface of the case and the stopping pin (23) is formed at the reinforcing member.

11. With respect to claims 19 and 20, Heyder discloses the base nut member to have a disc shape and is installed at a nut-installed portion formed at a center of the case. The stopping pin (23) is inserted in an insertion groove (of 22) formed in the case and is protruded to the nut-

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installed portion (area between 4 and 5) such that the stopping pin stops an engaging protrusion (22).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 1 and 3-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heyder in view of Cyrell et al ("Cyrell", U.S. Patent No. 5,251,859). Heyder discloses a hinge apparatus of a clothes drier drum comprising a front hinge portion (column 1, lines 66, 67), and a rear hinge portion (see figure 3) installed between the rear of a case (2) and a rear of a drum (8) such that the rear of the drum swings in vertical and horizontal directions. Heyder further shows the rear hinge portion to comprise a housing (10, 11) fixed at the center of the drum, a ball bearing (5) in the housing, and a shaft (3). Heyder does not show the shaft extending entirely through the ball bearing.

14. Cyrell teaches a ball bearing (24) having a shaft (36) extending completely therethrough. This arrangement allows access to the shaft (column 4, lines 56-59). It would have been obvious to one having ordinary skill in the art to modify Heyder, such that the shaft extends through the ball bearing, to provide access to the shaft, as taught by Cyrell.

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15. With respect to claim 3, Heyder shows the housing consists of first and second housings (11 and 10, respectively) fixed at the rear of the case (2). A spherical groove (around 5) is formed when the first and second housing are assembled.

16. With respect to claim 4, Heyder discloses a first engaging portion (upper and lower portions of 11, in figure 3) with a bolt hole (shown in figure 3) fixed at the rear surface of the drum (8) and a bolt engaging hole bolt engaged with the second housing (at 12). The holes are formed in a circumferential direction. The first hinge portion (11) is integrally formed at the center of the first engaging portion and has a hemispherical groove where the ball (5) is inserted.

17. With respect to claims 6 and 7, Heyder discloses one end of the shaft (3) fixed at the ball bearing (see figure 3), and the other end of the shaft has a spiral formed portion (threads) so as to be bolt engaged with the case (2) while providing an empty gap between the second housing and the case. A base nut (portion around shaft 3, between 4 and 5, in figure 3) is screw engaged with the shaft at an inner surface of the case (2).

18. Claims 11 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heyder in view of Crowley (U.S. Patent No. 5,963,432). In Heyder, it appears that the reinforcing member is fixed to the case by nut (4), not a weld or rivet as claimed.

19. Crowley teaches a fastening arrangement where a threaded rod and nut or a rivet may be used (column 4, lines 25-26), thus establishing equivalence between the two fasteners. It would have been obvious to one having ordinary skill in the art at the time of the invention to use a rivet to secure the reinforcing member to the case of Heyder, as a rivet is an equivalent fastening means.

Response to Arguments

20. Applicant's arguments filed March 29, 2006, have been fully considered but they are not persuasive.

21. Applicant argues the rejection based on 35 U.S.C. 112, second paragraph should be withdrawn as all required elements are met. Examiner notes that applicant does not apply this argument to anything in the claims, or address how the claims overcome the rejection. Applicant only recites case law, but does not apply to the instant application. Applicant is further reminded that an apparatus should be distinguished from the prior art in terms of structure rather than function (MPEP 2114). While applicant has amended the claims to include some structure, there is no connection between the claimed structure and the function.

22. With respect to applicant's arguments regarding the rejections under 35 U.S.C. 102(b), examiner notes these arguments are moot in view of new grounds of rejection, necessitated by applicant's amendment to the claims.

23. Applicant argues the unlabeled element between 4 and 5, identified in the Office Action as a base nut, is not a base not. Applicant concedes it may be a coupling, but is not a base nut. Applicant does not provide any further explanation as to how the claimed base nut overcomes the elements of Heyder that meets the claimed limitations of a base nut. Applicant argues that this element is not a disc shape, stating that it is not a thin circular, round flat plate shape. Examiner respectfully disagrees, noting that "thin" is a relative term and the element includes flat surfaces.

24. With respect to claim 11, applicant argues there is no showing of a suggestion, teaching, or motivation to combine the prior art. Examiner notes that this showing is provided by the

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teaching reference, which shows either a nut or rivet, may be used to fix one object to another.

The prior art clearly shows that either may be used to perform the identical function, and establishes the elements as equivalents. One of ordinary skill would recognize that either a nut or a rivet may be used to fasten one element to another.

Conclusion

25. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

26. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Kyle whose telephone number is 571-272-7057. The examiner can normally be reached on Monday - Friday, 8:30 am - 5:00 pm.

28. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Swann can be reached on 571-272-7075. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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29. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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